



UNITED STATES PATENT AND TRADEMARK OFFICE

012

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/897,909	07/05/2001	Yasuhiro Sato	N1122-U	1406
7590 10/06/2003				
McGinn & Gibb, PLLC. Suite 200 8321 Old Courthouse Road Vienna, VA 22182-3817			EXAMINER SEFER, AHMED N	
			ART UNIT 2826	PAPER NUMBER

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/897,909	Applicant(s) SATO ET AL.	
	Examiner A. Sefer	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 16-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-13 and 15 is/are rejected.
- 7) ☒ Claim(s) 5 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (claims 1-15) is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukuda et al. (JP 8-5806).

Fukuda et al disclose in fig. 3 a reflector comprising a body formed of insulating resin 10, and having an outer surface and an inner surface defining a space open to an object to which a light is to be directed, and a conductive pattern 20 printed on said outer surface capable of supplying an electric power to a light source (not shown) placed in said space.

As for claim 7, Fukuda et al disclose a groove formed in said body, and a conductive pattern is formed in said groove.

As for claim 8, Fukuda et al disclose a conductive pattern coplanar with a surface of said body to which said groove is open.

As for claim 9, Fukuda et al disclose plural conductive sub-patterns 20/40 arranged in parallel to one another.

4. Claims 1 and 6-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Cha et al US PG-Pub 2001/0035923.

Cha et al disclose in fig. 5 a reflector comprising a body formed of insulating resin, and having an outer surface and an inner surface defining a space open to an object to which a light is to be directed, and a conductive pattern 516 printed on said outer surface for supplying an electric power to a light source 512 placed in said space.

As for claim 6, Cha et al disclose said body having a first end and a second end respective corresponding to two ends of a lamp, and said conductive pattern extends along a shortest path between said first end and said second end.

As for claim 7, Cha et al disclose a groove 680 formed in said body, and a conductive pattern is formed in said groove.

As for claim 8, Cha et al disclose a conductive pattern coplanar with a surface of said body to which said groove is open.

As for claim 9, Cha et al disclose plural conductive sub-patterns 516a/516b arranged in parallel to one another.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al in view of Kim et al. USPG Pub No. 2002/0070650.

Fukuda et al disclose (see machine translated document) the device structure as recited in the claim including a thermoplastic resin or polyethylene terephthalate (as in claim 3) or polycarbonate resin (as in claim 4) but do not disclose a conductive pattern formed of thermosetting resin containing conductive material.

Kim et al disclose (see figs. 11-12 and page 3, par. 0050-0051) a conductive pattern 15/16 formed of thermosetting resin containing conductive material.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teachings of Kim et al with the device of Fukuda et al since that would prevent breakage as taught by Kim et al.

7. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cha et al in view of Kim et al. USPG Pub No. 2002/0070650.

Cha et al disclose (see page 4, par. 0059) the device structure as recited in the claim including a thermoplastic resin or polyethylene terephthalate resin (as in claim 3), but do not disclose a conductive pattern formed of thermosetting resin containing conductive material.

Kim et al disclose (see figs. 11-12 and page 3, par. 0050-0051) a conductive pattern 15/16 formed of thermosetting resin containing conductive material.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teachings of Kim et al with the device of Cha et al since that would prevent breakage as taught by Kim et al.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (APA) in view of Cha et al.

The APA discloses in figs. 1-6 a liquid crystal display unit for producing an image, comprising: a liquid crystal panel 5 having an incident surface and an image producing surface; a driving circuit 6 connected to said liquid crystal panel, and varying the transparency of a part of said liquid crystal panel so as to transmit a light from said incident surface to said image producing surface through said part; and a light source 1 illuminating said light incident surface with said light, and including a lamp 10 having electrodes and generating said light propagated along an optical path to said liquid crystal panel, a power supply cable 3 having a conductive pattern 32 and voltage application lines directly connected to one of said electrodes and connected through said conductive pattern to the other of said electrodes but does not disclose a reflector formed of an insulating resin and having an outer surface where said conductive pattern is printed and an inner surface defining a space accommodating said lamp and open to said optical path for directing said light to said optical path.

Cha et al disclose in fig. 5 a reflector formed of an insulating resin and having an outer surface where said conductive pattern 516 is printed and an inner surface defining a space accommodating a lamp and open to said optical path for directing a light to an optical path.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teachings of Cha et al with the APA since that would make the brightness of light supplied into panel uniform.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (APA) in view of Fukuda et al.

The APA discloses in figs. 1-6 a liquid crystal display unit for producing an image, comprising: a liquid crystal panel 5 having an incident surface and an image producing surface; a driving circuit 6 connected to said liquid crystal panel, and varying the transparency of a part of said liquid crystal panel so as to transmit a light from said incident surface to said image producing surface through said part; and a light source 1 illuminating said light incident surface with said light, and including a lamp 10 having electrodes and generating said light propagated along an optical path to said liquid crystal panel, a power supply cable 3 having a conductive pattern 32 and voltage application lines directly connected to one of said electrodes and connected through said conductive pattern to the other of said electrodes but does not disclose a reflector formed of an insulating resin and having an outer surface where said conductive pattern is printed and an inner surface defining a space accommodating said lamp and open to said optical path for directing said light to said optical path.

Fukuda et al disclose in fig. 3 a reflector 10 formed of an insulating resin and having an outer surface where said conductive pattern 20 is printed and an inner surface defining a space accommodating a lamp and open to said optical path for directing a light to an optical path.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teachings of Fukuda et al with the APA since that would provide a reflector with high reliability for a display device as taught by Fukuda et al.

10. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of Fukuda et al as applied to claim 10 above, and further in view of Kim et al.

The combined references disclose the device structure as recited in the claim (see machine translated document) including a thermoplastic resin or polyethylene terephthalate (as in claim 12) or polycarbonate resin (as in claim 13) but do not disclose a conductive pattern formed of thermosetting resin containing conductive material.

Kim et al disclose (see figs. 11-12 and page 3, par. 0050-0051) a conductive pattern 15/16 formed of thermosetting resin containing conductive material.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teachings of Kim et al with the device of the APA and Fukuda et al since that would prevent breakage as taught by Kim et al.

11. Claims 11, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of Cha et al as applied to claim 10 above, and further in view of Kim et al.

The combined references disclose the device structure as recited in the claim including a thermoplastic resin or polyethylene terephthalate resin (as in claim 12), but do not disclose a conductive pattern formed of thermosetting resin containing conductive material.

Kim et al disclose (see figs. 11-12 and page 3, par. 0050-0051) a conductive pattern 15/16 formed of thermosetting resin containing conductive material.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teachings of Kim et al with the device of the APA and Cha et al since that would prevent breakage as taught by Kim et al.

As for claim 15, Cha et al disclose a reflector having a first end and a second end respective corresponding to two ends of a lamp, and said conductive pattern extends along a shortest path between said first end and said second end.

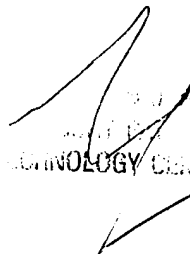
Allowable Subject Matter

12. Claims 5 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (703) 605-1227.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601.

ANS
September 12, 2003


NATHAN FLYNN
SUPERVISOR OF EXAMINER
TECHNOLOGY CENTER 2800